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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,470	09/28/2001	Phillip McGee	114293-3000	1756
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BAKER + HOSTETLER LLP WASHINGTON SQUARE, SUITE 1100 1050 CONNECTICUT AVE. N.W. WASHINGTON, DC 20036-5304			WALLING, MEAGAN S	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/964,470

Applicant(s)

MCGEE ET AL.

Examiner

Meagan S Walling

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3 and 9-18 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Tambini (US 5,581,042) in view of DeMartelaere et al. (US 4,845,998).

Regarding claim 1, Tambini teaches an apparatus that measures the angle of rotation applied to a fastener by a tool beyond a specific reference point (column 1, lines 51-55), the apparatus comprising a shaft (Fig. 1, Ref. 4), the shaft is linked to an angle rate sensor that measures the speed (column 1, lines 54-55) and direction (column 3, lines 19-20) of the rotation applied; and an angle indicator (Fig. 1, Ref. 17).

Regarding claim 2, Tambini teaches an angle selector adjustable to a desired angle (column 1, lines 57-58); a processor that calculates a current angle of rotation from the rate sensor measurements (column 1, lines 53-55; column 2, lines 46-47); a zero point indicator that sets a zero point for the processor to calculate the selected angle (column 2, lines 40-42).

Regarding claim 3, Tambini teaches that the zero point is a reference point for the processor to calculate a selected angle (column 1, lines 51-55).

Regarding claim 9, Tambini teaches means for measuring an angle of rotation of the fastener (column 2, lines 42-43), the shaft is linked to means for sensing data from the rate and speed of the rotation being applied to the fastener (column 1, lines 54-55), the means for

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applying comprising a shaft (Fig. 1, Ref. 4); means for measuring the angle of rotation of the fastener from a fixed reference point (column 1, lines 51-55); and means for displaying the current angle of rotation (Fig. 1, Ref 17).

Regarding claim 10, Tambini teaches means for selecting a desired angle of rotation (column 1, lines 57-58), means for calculating the angle of rotation from the data (column 1, lines 53-55; column 2, lines 46-47), means for indicating a zero point from which the means for calculating basis the angle measurements (column 2, lines 40-42), and means for indicating the current angle as determined by the means for calculating (column 2, lines 46-47).

Regarding claim 11, Tambini teaches means for applying torque to a fastener (column 1, lines 49-50).

Regarding claim 12, Tambini teaches measuring the angle of rotation as applied to the fastener by a tool (column 2, lines 42-43), the shaft is linked to an angle rate sensor that measures the speed (column 1, lines 54-55) and direction (column 3, lines 19-20) of the rotation applied; and displaying the current angle of rotation (column 2, lines 46-47) with an angle indicator (Fig. 1, Ref. 17).

Regarding claim 13, Tambini teaches selecting a desired angle using and angle selector on an apparatus comprising an angle selector (column 1, lines 53-54), a processor (column 2, lines 44-45), a zero point indicator (Fig. 2, Ref. 7), and an angle indicator (column 2, lines 46-47); indicating a zero point to the processor (column 2, lines 41-42); applying torque to the fastener with a tool to which the apparatus is attached to rotate the fastener (column 1, lines 49-50); measuring the rate and speed of the rotation with the angle rate sensor starting from the zero

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point (column 1, lines 53-55; column 2, lines 43-44); and calculating an angle of rotation using the processor (column 2, lines 44-46).

Regarding claim 14, Tambini teaches that the processor indicates that it has accepted the zero point (column 2, lines 34-38).

Regarding claim 15, Tambini teaches alerting that the desired selected angle of rotation has been reached (column 4, lines 46-48).

Regarding claim 16, Tambini teaches a tool that applies torque to a fastener (column 1, lines 49-50); an apparatus that measures the angle of rotation beyond a specific reference point (column 2, lines 42-43) the apparatus configured to fit between the tool (Fig. 2, Ref.1) and the fastener (Fig. 2, Ref. 9), the apparatus comprises an angle rate sensor that measures the speed (column 1, lines 54-55) and direction (column 3, lines 19-20) of the rotation applied; and an angle indicator (Fig. 1, Ref. 17).

Regarding claim 17, Tambini teaches an angle selector adjustable to a desired angle (column 1, lines 57-58); a processor that calculates a current angle of rotation from the rate sensor measurements (column 1, lines 53-55; column 2, lines 46-47); a zero point indicator that sets a zero point for the processor to calculate the selected angle (column 2, lines 40-42).

Regarding claim 18, Tambini teaches that the tool comprises a ratchet (column 3, lines 18-19).

Tambini does not teach that the angle indicator is located apart from and linked to the apparatus or that the shaft is configured to be positioned between the tool and the fastener (claims 1, 9, 12, and 16).

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DeMartelaere et al. teaches that the angle indicator (Fig. 1, Ref. 86) is located apart from and linked to the apparatus (Fig. 1, Ref. 10) and that the shaft (Fig. 1, Ref. 17) is positioned between the tool (Fig. 1, Ref. 10) and the fastener (Fig. 1, Ref. 20).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Tambini with the teachings of DeMartelaere et al. to position the angle indicator apart from and linked to the apparatus and the shaft between the tool and the fastener. The motivation for doing so would be to be able to use the tool in a small area so the fastener can reach in a tight space without the rest of the apparatus getting in the way. Also, the display could be more easily read if the tool was located in a small space if it were located apart from the rest of the apparatus.

2. Claims 4 and 23 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Tambini in view of DeMartelaere et al. and further in view of Tambini (US 6,609,407).

Together Tambini and DeMartelaere et al. teach all of the limitations of claims 4 and 23 except the limitation that the angle indicator is a digital multimeter (current claims 4 and 23).

Tambini '407 teaches a multimeter that reads out the angle measured by a potentiometer (column 2, lines 49-52).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Tambini and DeMartelaere et al. with the teachings of Tambini '407 to use a multimeter as an angle indicator. The motivation for making this combination would be to get an accurate reading where the angle is based on the resistance of the potentiometer.

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3. Claims 5 and 24 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Tambini in view of DeMartelaere et al. and further in view of Tambini '407 and Tsuchida et al. (JP 07205042A).

Together Tambini and DeMartelaere et al. teach all of the limitations of claims 5 and 24 except the limitation that the angle indicator is a digital multimeter and a sound-generating device that activates when the selected angle of rotation has been reached (current claims 5 and 24).

Tambini '407 teaches a multimeter that reads out the angle measured by a potentiometer (column 2, lines 49-52).

Tsuchida et al. teaches a device that emits a sound when a screw tightening rotation angle reaches a predetermined torque value (see abstract).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Tambini and DeMartelaere et al. with the teachings of Tambini '407 and Tsuchida et al. to use a multimeter as an angle indicator and to emit a sound when the selected angle of rotation has been reached. The motivation for making this combination would be to get an accurate reading where the angle is based on the resistance of the potentiometer and to be audibly notified when the correct angle has been reached so as to avoid tightening too much when not watching the angle indicator.

4. Claims 6 and 20 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Tambini in view of DeMartelaere et al. and further in view of Stanis (US 5,095,746).

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Together Tambini and DeMartelaere et al teach all the limitations of claims 6 and 20 except the limitation that the angle selector is a potentiometer.

Stanis teaches using a potentiometer for entering a maximum angle (column 3, lines 56-59).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Tambini and DeMartelaere et al with the teachings of Stanis to use a potentiometer as an angle selector. A potentiometer can be used for manually entering a desired angle, so it would be obvious to use it as an angle selector.

5. Claims 7 and 21 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Tambini in view of DeMartelaere et al. and further in view of Stanis and Suzuki et al (US 4,308,779).

Together Tambini and DeMartelaere et al. teach everything claimed in claims 7 and 21 except that the angle selector is a resistance ladder.

Stain teaches that a potentiometer can be used as an angle selector (column 3, lines 56-59). Suzuki et al. teaches that a potentiometer can be in the form of a resistance ladder (column 15, lines 64-64).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Tambini and DeMartelaere et al. with the teachings of Stanis and Suzuki et al. to use a resistance ladder as an angle indicator. As already shown, a potentiometer can be used as an angle selector. Since a potentiometer can be in the form of a resistance ladder, a resistance ladder can also be used as an angle selector.

6. Claims 8 and 22 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Tambini in view of DeMartelaere et al. and further in view of Chastel et al. (US 5,571,971).

Together Tambini and DeMartelaere et al. teach all the limitations of claims 8 and 22 except the limitation that the processor is a microcontroller.

Chastel et al. teaches using a microcontroller as a processor to perform calculations (column 9, lines 48-49).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Tambini and DeMartelaere et al. with the teachings of Chastel et al. to use a microcontroller as a processor. A microcontroller can be used to make calculations quickly and so using a microcontroller would expedite the process.

7. Claim 19 is finally rejected under 35 U.S.C. 103(a) as being unpatentable over Tambini in view of DeMartelaere et al. and further in view of Codrington (US 6,345,436).

Together Tambini and DeMartelaere et al. teach all the limitations of claim 19 except the limitation that the tool comprises a socket.

Codrington teaches a torque tool comprising a socket (Fig. 1, Ref. 24).

It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Tambini and DeMartelaere et al. with the teachings of Codrington to form a torque tool with a socket. The socket can be used to tighten a fastener such as a screw or bolt and therefore it could be used to find the angle of rotation when tightening the fastener.

Response to Arguments

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, only minor modifications were made to the base reference (Tambini '042) to yield the claimed invention so that, for example, it could be used in a smaller area or to be read from a further distance. The fact remains that the major scope of the claimed invention is taught by Tambini '042 and any modifications such as size or the fact that certain elements are arranged in a certain order do not make the claimed invention patentably distinct. Therefore the combination of the references is proper because the claimed invention is merely a combination of different aspects of several patented torque wrench apparatuses.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to the argument that the references do not teach that the shaft is linked to an angle rate sensor such that the speed and direction of the torque applied is measured, Tambini '042 clearly shows a velocity sensor (Fig. 2, Ref. 3) linked to the shaft via the head of the apparatus. Furthermore, Tambini '042 teaches that the angular velocity (column 1, lines 54-55) and direction (column 3, lines 19-20) of the rotation are measured.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

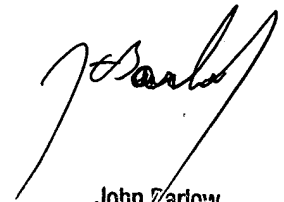
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meagan S Walling whose telephone number is (571) 272-2283. The examiner can normally be reached on Monday through Friday 8:30 AM to 5 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

msw



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